

Exhibit 1



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

MAR 27 2020

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

The Honorable Chokwe A. Lumumba
Mayor of City of Jackson
219 South President Street
Jackson, Mississippi 39205

Re: Emergency Administrative Order under SDWA Section 1431, 42 U.S.C. § 300i
Public Water System: City of Jackson Public Water System
PWS ID Number: MS0250008
Docket No.: SDWA-SDWA-04-2020-2300

Dear Mayor Lumumba:

Enclosed is an Emergency Administrative Order (Order) issued by the U.S. Environmental Protection Agency to the City of Jackson, Mississippi (Respondent), as the owner/operator of the City of Jackson Public Water System (System), pursuant to section 1431 of the Safe Drinking Water Act (SDWA), 42 U.S.C. § 300i.

Based on observations made by the EPA during its inspection conducted the week of February 3, 2020, and review of the documents provided by Respondent in response to the EPA's request for information issued pursuant to its authority under section 1445 of the SDWA, 42 U.S.C. § 300j-4, the EPA has determined that conditions exist at the System that present an imminent and substantial endangerment to the persons served by the System. Based on evidence of turbidity exceedances, disinfection treatment concerns, and/or the condition of the distribution system, the System has the potential to have the presence of *E. Coli*, *Cryptosporidium*, or *Giardia* in the drinking water being served to its customers. Therefore, pursuant to section 1431 of the SDWA, 42 U.S.C. § 300i, the EPA is authorized to take actions necessary to protect human health. The Order and its requirements are necessary to ensure adequate protection of public health.

The enclosed Order sets forth the actions that must be taken to ensure that the people served by the System are provided with safe drinking water. The Order requires the System to, among other things: (1) develop and implement a plan to address all monitoring equipment and appurtenant treatment equipment repairs and/or replacements; (2) address dosing processes for disinfection and pH control; (3) develop and implement a plan to provide alternative drinking water when specific triggers are met; and (4) take additional total coliform bacteria samples under prescribed conditions.

The Order constitutes a final agency action and under Section 1448(a) of the SDWA, 42 U.S.C. § 300j-7(a) you may seek federal judicial review. If you have any questions or wish to discuss this Order, please contact Amanda Driskell at (404) 562-9735 or Driskell.Amanda@epa.gov. For legal inquiries,

please have your attorneys contact Suzanne Armor, Associate Regional Counsel, at (404) 562-9701 or Armor.Suzanne@epa.gov. Thank you for your attention to this matter.

Sincerely,



Carol L. Kemker

Director

Enforcement and Compliance Assurance Division

Enclosure

cc: Robert K Miller, Director, City of Jackson Department of Public Works
Lester Herrington, Director of Office of Environmental Health,
Mississippi State Department of Health

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4**

IN THE MATTER OF: City of Jackson, Mississippi, Respondent. Public Water System, PWS ID. No. MS0250008.)))))))	Docket No. SDWA-04-2020-2300 EMERGENCY ADMINISTRATIVE ORDER Proceeding pursuant to Section 1431(a) of the Safe Drinking Water Act, 42 U.S.C. § 300i(a).
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I. AUTHORITY

1. This Emergency Administrative Order (“Order”) is issued to the City of Jackson, Mississippi (“Respondent”) pursuant to the authority vested in the Administrator of the U.S. Environmental Protection Agency Section 1431(a) of the Safe Drinking Water Act (“SDWA”), 42 U.S.C. § 300i(a). The Administrator has delegated this authority to the Regional Administrator of the EPA Region 4, who has, in turn, delegated this authority to the Director of the Enforcement Compliance and Assurance Division.
2. The EPA has jurisdiction to issue emergency orders pursuant to Section 1431 of the SDWA, 42 U.S.C. § 300i.

II. FINDINGS OF FACT AND CONCLUSIONS OF LAW

General Findings

3. Respondent is a municipality created under the laws of the State of Mississippi and is therefore a “person” as that term is defined in the SDWA, 42 U.S.C. § 300f(12); 40 C.F.R. § 141.2.
4. Respondent owns and/or operates a public water system located in the City of Jackson, Mississippi, PWS ID No. MS0250008 (“System”). The System provides water for human consumption to a population of approximately 173,514.
5. The System is a “public water system” within the meaning of Section 1401(4) of the SDWA, 42 U.S.C. § 300f(4); 40 C.F.R. § 141.2.
6. The System regularly serves at least 25 year-round residents and is therefore a “community water system” (“CWS”) within the meaning of Section 1401(15) of the SDWA, 42 U.S.C. § 300f(15), and 40 C.F.R. § 141.2.
7. Respondent’s ownership and/or operation of the System makes it a “supplier of water” within the meaning of Section 1401(5) of the SDWA, 42 U.S.C. § 300f(5), and 40 C.F.R. § 141.2, and subject to the requirements of Part B of the SDWA, 42 U.S.C. § 300g, and the National Primary Drinking Water Regulations (“NPDWRs”) at 40 C.F.R. § 141.

8. Pursuant to SDWA Section 1413, 42 U.S.C. § 300g-2, the Mississippi State Department of Health (“MSDH”) has primary responsibility for the implementation and enforcement of the public water supply program in Mississippi.
9. The System consists of two water treatment plants, known as the O.B. Curtis Water Treatment Plant (“O.B. Curtis WTP”)¹ and the J.H. Fewell Water Treatment Plant (“J.H. Fewell WTP”),² a number of groundwater wells,³ and appurtenant collection, treatment, storage, and distribution facilities.⁴
10. Portions of the System can be supplied by both ground and surface water sources, while others are served only by surface water sources. The surface water sources are the Ross Barnett Reservoir and the Pearl River. The ground water source is the Sparta Aquifer.
11. The O.B. Curtis and J.H. Fewell WTPs, both of which treat the surface water portions of the System, employ conventional filtration with ultraviolet (“UV”) systems to inactivate pathogens. Finished water at the WTPs is disinfected using chloramines.
12. UV disinfection treatment is installed on each individual filter effluent (“IFE”) flow at both the O.B. Curtis and J.H. Fewell WTPs to treat for viruses, including *Cryptosporidium* and *Giardia*.
13. Respondent’s PWS is required to provide filtration pursuant to 40 C.F.R. §§ 141.73 and 141.173, and disinfection pursuant to 40 C.F.R. §§ 141.72(b) and 141.172.
14. Ground water from the wells is treated at the point of withdrawal using gaseous chlorine.
15. The term “contaminant” means any physical, chemical, biological, or radiological substance or matter in water.” 42 U.S.C. § 300f(6).
16. Turbidity is a measure of the cloudiness of water. It is used to indicate water quality and filtration effectiveness (such as whether disease-causing organisms are present). Higher turbidity levels are often associated with higher levels of disease-causing microorganisms.
17. *E. coli*, *Cryptosporidium*, and *Giardia* are contaminants under the meaning of 42 U.S.C. § 300f(6), and are or may be present in the System.
18. On November 22, 2019, the EPA issued a Request for Information to Respondent, pursuant to Section 1445 of the SDWA, 42 U.S.C. § 300j-4, and 40 C.F.R. § 141.31, seeking information to determine Respondent’s compliance with federal drinking water regulations.
19. On December 23, 2019, Respondent provided its response to the EPA’s Request for Information.

¹ To the EPA’s knowledge and belief, the O.B. Curtis WTP was initially constructed in or around 1992.

² To the EPA’s knowledge and belief, the J.H. Fewell WTP was initially constructed in or around 1914.

³ Respondent maintains at least six active groundwater wells (T.V. Road Well, Willo-O-Wood Well, Wiggins Road Well, Siwell Road Well, Highway 18 Well, and Maddox Road Well), along with three inactive groundwater wells (Forest Hill Road Well, Rainey Road Well, and Presidential Hill Well).

⁴ Until approximately October 2014, there were two separately identified public drinking water systems owned by the City of Jackson, Mississippi. One was supplied entirely by groundwater and identified under the PWS ID No. MS0250012; the other was supplied by surface water and identified under the PWS ID No. MS0250008.

20. On January 15 and 16, 2020, consistent with the requirements of Section 1445(b)(1), 42 U.S.C. § 300j-4(b)(1), the EPA notified MSDH and Respondent, respectively, of its intent to inspect the PWS.
21. On February 3 to 7, 2020, representatives of the EPA conducted an inspection of the PWS, pursuant to its authority under Section 1445(b)(1) of the SDWA, 42 U.S.C. § 300j-4(b)(1).

Bacterial Contamination and Proper Disinfection

22. During the inspection, the EPA identified the following preliminary concerns related to bacterial contamination and proper disinfection:
 - a. The necessary chemical dosing of coagulant to address turbidity is determined by the streaming current detectors (“SCDs”); however, Respondent’s SCDs were not properly calibrated at either the O.B. Curtis or J.H. Fewell WTPs, thus failing to provide accurate dosing for proper treatment of drinking water;
 - b. Continuous monitoring equipment at the O.B. Curtis WTP has not been repaired or calibrated for approximately three years since the instrument technician position was vacated. This equipment includes pH meters, flow measurement devices, turbidimeters, and the SCDs. Comparisons of operator laboratory bench sheet results indicated that the readouts from the continuous pH meters are off by up to 2 units in some instances. It was indicated on the monthly operating reports submitted in response to the EPA’s November 22, 2019 Request for Information, that this equipment was used as the basis for the values reported for compliance.
 - c. Jar tests are commonly used in the industry as “bench-scale” simulations of full-scale coagulation/flocculation/sedimentation water treatment processes. Respondent does not follow the industry standard of conducting regular jar tests at both the O.B. Curtis and J.H. Fewell WTPs. Because the SCDs are used as the basis for those coagulant dosing decisions without having been calibrated, the lack of jar testing is an additional indicator in evaluating the ability of the WTPs to deliver safe drinking water to the System’s users.
 - d. Respondent conducts membrane cleaning cycles without the use of automatic monitoring equipment for pH and chlorine levels. Excess chlorine levels can damage and reduce membrane efficiency. In addition, membrane cleaning is partially dependent on pH, requiring either higher or lower pH cleaning regimes based on the foulants present. This automatic monitoring equipment has been nonfunctional for several years.
 - e. Respondent cannot currently perform membrane integrity testing at O.B. Curtis WTP due to wear and breakage of the system components and compressor. This is concerning due to the inability of the Respondent to evaluate the membrane filters’ mechanical integrity during times of turbidity exceedance.
 - f. Respondent has failed to perform filter maintenance at O.B. Curtis WTP and J.H. Fewell. Considering the recent turbidity exceedances, it is crucial that Respondent maintain the System filters to perform in optimal condition for protection of human health.
 - g. NDPWRs require a system’s combined filtered water at each plant be less than or equal to 0.3 NTU in at least 95% of the measurements taken each month, and the turbidity level of a

system's combined filtered water at each plant must at no time exceed 1 NTU. Turbidity exceedances were reported at both the O.B. Curtis and J.H. Fewell WTPs in the January 2020 monthly operating report ("MOR"). Finished water turbidity reached 1.35 NTU at the O.B. Curtis WTP and 3.00 NTU at the J.H. Fewell WTP. Additionally, at the O.B. Curtis WTP, 93.5% of turbidity samples were equal to or less than the turbidity limit of 0.3 NTU. The EPA's inspectors observed that the continuous turbidity monitoring equipment at the O.B. Curtis WTP has read inaccurately for approximately three years due to a lack of calibration and maintenance, and that turbidity samples were taken during this time period at a frequency of once per shift, for a total of three times per day. Given that the turbidity monitoring equipment was not operational, the system, to maintain compliance with NDPRWs, should have conducted grab sampling every four hours in lieu of continuous monitoring, but for no more than five working days following the nonoperation of the equipment.

h. UV disinfection devices were found to be offline for significant periods of time at both the O.B. Curtis and J.H. Fewell WTPs. UV disinfection devices are to be operated continuously. In its January 2020 MOR, Respondent reported the following:

i. At the J.H. Fewell WTP:

- UV Reactor 1 was offline for the entire month of January 2020 (and had been offline since October 16, 2019);
- UV Reactor 2 was offline for 15 of 31 days;
- UV Reactor 3 was offline for 17 of 31 days; and
- UV Reactor 4 was offline for 17 of 31 days.

ii. At the O.B. Curtis WTP:

- UV Reactor 1 was offline for two of 31 days;
- UV Reactor 2 was offline for four of 31 days;
- UV Reactor 3 was offline for one of 31 days;
- UV Reactor 4 was offline for three of 31 days; and
- UV Reactor 5 was offline for 10 of 31 days.

23. MSDH provided the EPA with a list of all Boil Water Notices ("BWNs") issued between January 2, 2016 and February 1, 2020, to provide notice to the public of the potential to have serious adverse effects on human health as a result of short-term exposure pursuant to 40 C.F.R. § 141.202. The majority of the BWNs issued were due to loss of pressure from leaks and/or line breaks. Low-pressure and loss of pressure in a drinking water distribution system may cause a net movement of water from outside the pipe to the inside through cracks, breaks, or joints in the distribution system. Crack, breaks and joints are common in all water systems. Backsiphonage occurs when pressure is lost in pipes creating a negative pressure and a partial vacuum that pulls water from a contaminated source outside the pipe into the treated, potable water inside the pipe. This creates a suitable environment for bacteriological contamination and other disease-causing organisms, including *E. coli*, to enter the water distribution system downstream of the WTPs, which is then delivered to users.

24. High levels of turbidity increase the likelihood that drinking water may contain disease-causing organisms, such as *Cryptosporidium*, *Giardia*, *Legionella*, and *E. coli* because particles of turbidity provide shelter for microbes and reduce the microbes' exposure to disinfectants. If particulate material is not removed, a high turbidity event can provide shelter for and promote regrowth of pathogens in the water, leading to an outbreak of waterborne diseases.
25. Pathogens, such as *Giardia*, *Cryptosporidium*, and *Legionella*, are often found in water. If consumed, these pathogens can cause gastrointestinal illness (e.g., diarrhea, vomiting, cramps) and other health problems. These illnesses may be severe and sometimes fatal for people with weakened immune systems. *Cryptosporidium* is a significant concern in drinking water because it is resistant to chlorine and other disinfectants.
26. *E. coli* are bacteria, that when present, indicate the water may have been contaminated with human and/or animal wastes. Human and/or animal wastes may contain pathogens that can cause short-term health impacts, such as diarrhea, cramps, nausea, headaches, or other symptoms. Pathogens may pose a greater health risk for infants, young children, the elderly, and people with severely compromised immune systems.

MSDH Actions and the EPA's Coordination with MSDH

27. MSDH has pursued informal enforcement actions against Respondent for Lead and Copper Rule ("LCR") treatment technique violations and Long-Term Enhanced Surface Water Treatment Rule violations due to turbidity exceedances. Additionally, MSDH issued a compliance plan to Respondent on February 12, 2016, to address the LCR violations that occurred starting in June 2015. However, these actions have not been effective in adequately protecting the health of the System's users with respect to the findings above.
28. EPA consulted with the City of Jackson and MSDH, to the extent practicable in light of the imminent endangerment, to confirm the correctness of the information on which this Order is based and to ascertain the action which such authorities were or would be taking.
29. Based on the findings above, the EPA has determined that the System has numerous SDWA violations, including violations of the NPDWRs.
30. Based on the findings above, and despite actions taken by MSDH, the local authorities have not undertaken all actions necessary to protect the public health and conditions exist at the System that may present an imminent and substantial endangerment to the health of persons served by the System. On February 28, 2020, MSDH submitted a written request for the EPA to assist with addressing the System's SDWA noncompliance. Therefore, this Order is necessary to protect human health.
31. The EPA has therefore determined that the actions specified in this Order are necessary to protect the health of persons.

III. ORDER

Based on the foregoing findings and conclusions, and pursuant to Section 1431 of the Act, 42 U.S.C. § 300i, it is ordered:

Intent to Comply

32. Within 72 hours of receipt of this Order, Respondent must notify the EPA in writing of its intent to comply with the terms of this Order. To satisfy this requirement, Respondent shall email the EPA point of contact identified below in Paragraph 44.

Public Notification

33. Effective immediately upon the Effective Date of this Order, Respondent shall carry out the public notice requirements as required by 40 C.F.R. Part 141, Subpart Q for all future violations of NPDWRs. Additionally, Respondent must treat any exceedances of maximum allowable turbidity levels and breaks in water lines or other low pressure or loss of pressure events likely to cause contamination in the System's distribution system as requiring Tier 1 public notification as required by 40 C.F.R. § 141.202 until notified by the EPA that this is no longer necessary.

Treatment and Distribution System Management

34. Notwithstanding the requirements of this Order, Respondent shall continue to implement all applicable monitoring and reporting requirements of the SDWA and NPDWRs in accordance with 40 C.F.R. Part 141.
35. Dosing Process Repair. Within one week of the Effective Date of this Order, Respondent shall fix dosing process for disinfection and pH control.
36. Repair and/or Replacement of Equipment.
- Within one week of the Effective Date of this Order, Respondent shall provide to the EPA and MSDH a status of all monitoring equipment and appurtenant treatment equipment (including, but not limited to, pH meters, flow measurement devices, turbidimeters, SCDs, chlorine analyzers, raw water screens, UV reactors, automatic sludge removal system, membrane filtration treatment train flocculator motors, membrane integrity testing system, and filters). This must include, at a minimum, descriptions of the conditions of the equipment, identify in which facility this equipment is located, any needed repairs, and status of calibration.
 - Within 30 days of the Effective Date of this Order, Respondent shall submit a comprehensive plan, including a schedule of implementation, for the EPA's review and approval, to repair and/or replace monitoring equipment and repair, replace, and/or perform maintenance on the appurtenant treatment equipment to ensure the System has the appropriate treatment equipment and appropriate information to make treatment decisions, and that the water quality is properly measured for compliance with the NPDWRs. All future MORs and weekly data, as required pursuant to Paragraph 43(43.a), shall include the date of last calibration and any repairs and/or replacement of monitoring equipment done since the last report was provided, until further notice by the EPA.